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10/748,705	12/29/2003	Tomasz Bogdan Madajczak	10559-903001 / P17951	2140

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EXAMINER

TANG, KENNETH

ART UNIT

PAPER NUMBER

2195

NOTIFICATION DATE

DELIVERY MODE

09/08/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PATDOCTC@fr.com

Office Action Summary**Application No.**

10/748,705

Applicant(s)

MADAJCZAK, TOMASZ BOGDAN

Examiner

KENNETH TANG

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-26 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 12/29/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/CDC)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-26 are presented for examination.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. **Claims 1-17 are directed to non-statutory subject matter.**

- a. Claims 1-7 are directed to a method that lacks a tangible result. For example, scheduling processing of a packet is not a tangible result.

- b. Claims 8-14 are directed to an information carrier that could be interpreted to one of ordinary skill in the art as comprising a carrier wave. Data signals and carrier waves, for example, are not patentable subject matters. In this situation, claim 8 fails to fall under one of the four statutory categories of inventions as deemed by 35 USC 101. 35 U.S.C. 101 defines four categories of inventions that Congress deemed to be the appropriate subject matter of a patent: processes, machines, manufactures and compositions of matter. The latter three categories define “things” or “products” while the first category defines “actions” (i.e., inventions that consist of a series of steps or acts to be performed). See 35 U.S.C. 100(b) (“The term process’ means process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.”).

c. Claims 15-17 are directed to a scheduler that could be interpreted to one of ordinary skill in the art as software, per se. The claimed software scheduler fails to fall under one of the four statutory categories of inventions as deemed by 35 USC 101.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5, 7-12, 14-21 and 23-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Pandya (US 2004/0030770 A1).

4. As to claim 1, Pandya teaches a method comprising: scheduling processing of a packet received by a packet processor (IP Network Application Processor) with a hardware scheduler (packet scheduler 1702) in a stack processor (SAN Packet Processor 1706(a)-(n) or Control Plane Processor) included in the packet processor (Fig. 17, items 1702, 1706(a)-(n), 1711, page 9, [0107]-[0108]).

5. As to claim 2, Pandya teaches wherein the scheduling includes receiving an interrupt signal from a packet engine included in the packet processor (page 10, [0112], lines 13-20).

As to claim 3, Pandya teaches wherein the scheduling includes identifying an interrupt handling routine (page 7, [0100], lines 30-31, page 10, [0012]).

6. As to claim 4, Pandya teaches wherein a control processor in the packet processor manages the packet engine (Fig. 17, item 1711, page 10, [0113]).

7. As to claim 5, Pandya teaches wherein the scheduler uses a weighted round robin scheduling scheme (page 10, [0115], lines 16-20).

8. As to claim 7, Pandya teaches wherein the stack processor passes a message through a communication queue to the control processor ([0180], Fig. 42, Host Input Queue and Host Output Queue).

9. As to claim 8, it is rejected for the same reasons as stated in the rejection of claim 1.

10. As to claims 9-12 and 14, they are rejected for the same reasons as stated in the rejections of claims 2-5 and 7.

11. As to claim 15, it is rejected for the same reasons as stated in the rejection of claim 1.
12. As to claims 16-17, they are rejected for the same reasons as stated in the rejections of claims 2-3.
13. As to claim 18, it is rejected for the same reasons as stated in the rejection of claim 1.
14. As to claims 19-20, they are rejected for the same reasons as stated in the rejections of claims 2-3.
15. As to claim 21, it is rejected for the same reasons as stated in the rejection of claim 1. In addition, Pandya teaches the use of input/output ports (page 10, [0115], lines 1-16, page 14, [0123]).
16. As to claim 23, it is rejected for the same reasons as stated in the rejection of claims 3.

17. As to claim 24, it is rejected for the same reasons as stated in the rejection of claim 1 and 4.

18. As to claims 25-26, they are rejected for the same reasons as stated in the rejections of claims 2-3.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pandya (US 2004/0030770 A1) in view of Stenstrom ("Master's Thesis: Implementation of a Network Processor Based Exchange Terminal", Stockholm, November 2002).

20. As to claims 6 and 13, Pandya is silent wherein the stack processor receives the packet for a scratch ring included in the packet processor. However, Stenstrom discloses a packet/network processor consisting of a plurality of microengines (ME) which utilize a scratch ring that assists communication between the MEs (page 31, last paragraph). Pandya and Stenstrom are analogous art because they are both in the same field of endeavor of processing

with a packet processor. One of ordinary skill in the art would have known to modify Pandya's network processor such that it would include the use of a scratch ring, as taught in Stenstrom. The suggestion/motivation for doing so would have been to provide the predicted result of a standard communication means between the various processors/microengines. Therefore, it would have been obvious to combine Pandya and Stenstrom to obtain the invention of claims 6 and 13.

21. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pandya (US 2004/0030770 A1) in view of Modelski et al. (hereinafter Modelski) (US 2002/0083297).

22. As to claim 22, Pandya teaches scheduling to include receiving an interrupt signal from a processor. However, Pandya is silent in teach having a multithreaded packet engine. Modelski teaches a packet processor that is multi-threaded such that packets may be dispatched to multiple processing units or to multiple threads on a pipelined processing engine (see Title, Abstract, page 3, [0026]). Pandya and Modelski are analogous art because they are both in the same field of endeavor of processing with a packet processor. One of ordinary skill in the art would have known to modify Pandya's packet/network processor such that it would be multi-threaded, as taught in Modelski. The suggestion/motivation for doing so would have been to provide an enhanced flexibility/adaptability of the packet processor in addition to being able to more rapidly process data packets (page 2, [0013] and page 1, [0001]). Therefore, it would have been obvious

to one of ordinary skill in the art to combine Pandya and Modelski to obtain the invention of claim 22.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KENNETH TANG whose telephone number is (571)272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kenneth Tang/
Examiner, Art Unit 2195

/Li B. Zhen/
Primary Examiner, Art Unit 2194